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## **Navy-Marine Corps Amphibious and Maritime Prepositioning Ship Programs: Background and Oversight Issues for Congress**

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# Navy-Marine Corps Amphibious and Maritime Prepositioning Ship Programs: Background and Oversight Issues for Congress

## Summary

As of the end of FY2004, the Navy operated 35 amphibious ships, and the Military Sealift Command operated 16 maritime prepositioning force (MPF) ships for the Marine Corps. The Navy is currently building a new amphibious assault ship called LHD-8 and is also procuring new LPD-17 class amphibious ships. A total of 12 LPD-17s were originally planned, but the FY2006-FY2011 Future Years Defense Plan (FYDP) proposes reducing that figure to nine, with the final two to be procured in FY2006 and FY2007. The FY2006-FY2011 FYDP also calls for procuring new-design amphibious assault ships called LHA(R)s in FY2007 and FY2010, for starting procurement of a new type of MPF ship called the MPF (Future), or MPF(F), in FY2009, and for starting procurement of two new types of sealift “connector” ships in FY2009 and FY2010.

Three developments have caused the Navy to reconsider its plans for procuring amphibious ships and maritime prepositioning ships. One is a new concept of operations for conducting expeditionary operations ashore, called enhanced networked sea basing, or sea basing for short. A second is a new concept for crewing and deploying Navy ships called Sea Swap. A third is the rising Navy ship procurement costs.

These developments have led to changes in Navy plans for procuring amphibious and maritime prepositioning ships. In June 2005, the Navy submitted a report to Congress on the MPF(F) program that was required by the conference report (H.Rept. 108-622 of July 20, 2005) on the FY2005 defense appropriations bill (H.R. 4613/P.L. 108-287 of August 5, 2004). The report effectively cancels the MPF(F) program and converts MPF(F) into a generic term that refers to the future collection of ships of other types that will implement the sea basing concept. Although the Navy’s report details the composition of the Navy’s new preferred MPF(F) squadron, several other aspects of the Navy’s plans for procuring amphibious and maritime prepositioning ships remain unclear.

Changes and uncertainty in Navy plans for procuring amphibious ships and maritime prepositioning ships can contribute to business-planning uncertainty for the firms that build (or might build) these ships, and can make it potentially more difficult for Congress to conduct effective oversight of these programs. The issue for Congress is how to respond to changes in, and uncertainty regarding, Navy plans for procuring amphibious and maritime prepositioning ships.

Potential oversight issues for Congress include the following: the clarity of the sea basing concept; the potential affordability and cost-effectiveness of the sea basing concept; Navy and Marine Corps coordination with other services in developing the sea basing concept; the applicability of the Sea Swap concept to entire amphibious groups; and the role of industrial-base considerations in Navy planning for procuring amphibious ships, maritime prepositioning ships, and connector ships. This report will be updated as events warrant.

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# Navy-Marine Corps Amphibious and Maritime Prepositioning Ship Programs: Background and Oversight Issues for Congress

## Introduction

The Marine Corps uses amphibious ships and maritime prepositioning ships to deploy to distant sea areas, to position combat equipment and supplies in those areas, and to conduct expeditionary operations ashore. The Navy is currently building a new amphibious assault ship called LHD-8 and is also procuring new LPD-17 class amphibious ships. A total of 12 LPD-17s were originally planned, but the FY2006-FY2011 Future Years Defense Plan (FYDP) proposes reducing that figure to nine, with the final two to be procured in FY2006 and FY2007. The FY2006-FY2011 FYDP also calls for procuring new-design amphibious assault ships called LHA(R)s in FY2007 and FY2010, for starting procurement of a new type of MPF ship called the MPF (Future), or MPF(F), in FY2009, and for starting procurement of two new types of sealift “connector” ships in FY2009 and FY2010.

Three developments have caused the Navy to reconsider its plans for procuring amphibious ships and maritime prepositioning ships. One is a new concept of operations for conducting expeditionary operations ashore, called enhanced networked sea basing, or sea basing for short. A second is a new concept for crewing and deploying Navy ships called Sea Swap. A third is the rising Navy ship procurement costs.

These developments have led to changes in Navy plans for procuring amphibious and maritime prepositioning ships. In June 2005, the Navy submitted a report to Congress on the MPF(F) program that was required by the conference report (H.Rept. 108-622 of July 20, 2005) on the FY2005 defense appropriations bill (H.R. 4613/P.L. 108-287 of August 5, 2004). The report effectively cancels the MPF(F) program and converts MPF(F) into a generic term that refers to the future collection of ships of other types that will implement the sea basing concept. Although the Navy report details the composition of the Navy’s new preferred MPF(F) squadron, several other aspects of the Navy’s plans for procuring amphibious and maritime prepositioning ships remain unclear.

Changes and uncertainty in Navy plans for procuring amphibious ships and maritime prepositioning ships can contribute to business-planning uncertainty for the firms that build (or might build) these ships, and can make it potentially more difficult for Congress to conduct effective oversight of these programs.

The issue for Congress is how to respond to changes in, and uncertainty regarding, Navy plans for procuring amphibious and maritime prepositioning ships. Congress's decisions regarding procurement of these ships could significantly affect future U.S. military capabilities, funding requirements, and the shipbuilding industrial base.

The next section of this report provides background information on amphibious ships, maritime prepositioning ships, connector ships, the sea basing concept, and Sea Swap. (For more on the issue of rising Navy ship procurement costs, see CRS Report RL32914.)<sup>1</sup> The following section of the report presents some potential oversight questions for Congress relating to the Navy's plans for procuring amphibious and maritime prepositioning ships. The final section shows recent legislative activity in this area. This report will be updated as events warrant.

## Background

### Current Amphibious and Maritime Prepositioning Ships

**Amphibious Ships.** Amphibious ships are one of four principal categories of combat ships that traditionally have helped define the size and structure of the U.S. Navy. The other three are aircraft carriers,<sup>2</sup> surface combatants (e.g., cruisers, destroyers, and frigates),<sup>3</sup> and submarines.<sup>4</sup>

The primary function of amphibious ships is to transport Marines and their equipment to distant operating areas, and enable Marines to conduct expeditionary operations ashore in those areas. Amphibious ships have berthing spaces for Marines, flight decks and hangar decks for their helicopters and vertical/short take-off and landing (VSTOL) fixed-wing aircraft, well decks for storing and launching

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<sup>1</sup> CRS Report RL32914, *Navy Ship Acquisition: Options for Lower-Cost Ship Designs — Issues for Congress*, by Ronald O'Rourke.

<sup>2</sup> For more on Navy aircraft carriers, see CRS Report RS20643, *Navy CVN-21 Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report RL32731, *Navy Aircraft Carriers: Proposed Retirement of USS John F. Kennedy — Issues and Options for Congress*, by Ronald O'Rourke.

<sup>3</sup> The category of surface combatants also includes battleships (which the Navy currently does not operate), corvettes (i.e., light frigates, which the Navy also currently does not operate), and patrol craft. For more on Navy surface combatants, see CRS Report RS21059, *Navy DD(X) and CG(X) Programs: Background and Issues for Congress*, by Ronald O'Rourke; CRS Report RS21305, *Navy Littoral Combat Ship (LCS): Background and Issues for Congress*, by Ronald O'Rourke; and CRS Report RL32109, *Navy DD(X), CG(X), and LCS Ship Acquisition Programs: Oversight Issues and Options for Congress*, by Ronald O'Rourke.

<sup>4</sup> For more on Navy submarines, see CRS Report RL32418, *Navy Attack Submarine Force-Level Goal and Procurement Rate: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report RS21007, *Navy Trident Submarine Conversion (SSGN) Program: Background and Issues for Congress*, by Ronald O'Rourke. The Navy also includes mine warfare ships and a variety of auxiliary and support ships.

their landing craft,<sup>5</sup> and storage space for their wheeled vehicles, their other combat equipment, and their supplies. Although amphibious ships are designed to support Marine landings against opposing military forces, they can also be used for Marine landings in so-called permissive or benign situations where there are no opposing forces.

U.S. amphibious ships are Navy ships operated by Navy crews, with the Marines as passengers. They are built to survivability standards similar to those of other U.S. Navy combat ships,<sup>6</sup> and are included in the total number of battle force ships in the Navy, which is the commonly cited figure for the total number of ships in the fleet.<sup>7</sup> Amphibious ships are procured in the Navy's shipbuilding budget, known as the Shipbuilding and Conversion, Navy (SCN) appropriation account. Designations of amphibious ship classes start with the letter L, as in amphibious *l*anding.

Today's amphibious ships can be divided into two main groups — the so-called “big-deck” amphibious assault ships, designated LHA and LHD, which look like medium-sized aircraft carriers, and the smaller (but still sizeable) LSD- and LPD-type amphibious ships.<sup>8</sup> The LHAs and LHDs have large flight decks and hangar decks for embarking and operating numerous helicopters and VSTOL fixed-wing aircraft, while the LSDs and LPDs have much smaller flight decks and hangar decks for embarking and operating smaller numbers of helicopters. The LHAs and LHDs, as bigger ships, in general can embark more Marines and equipment than the LSDs and LPDs. As of the end of FY2004, the Navy included 35 amphibious ships:

- **7 Wasp (LHD-1) class ships**, commissioned between 1989 and 2001, each displacing about 40,500 tons;<sup>9</sup>
- **5 Tarawa (LHA-1) class ships**, commissioned between 1976 and 1980, each displacing about 40,000 tons;

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<sup>5</sup> A well deck is a large, garage-like space in the stern of the ship. It can be flooded with water so that landing craft can leave or return to the ship. Access to the well deck is protected by a large stern gate that is somewhat like a garage door.

<sup>6</sup> To enhance their survivability in battle — their ability to absorb damage from enemy weapons — U.S. Navy ships are built with features such as extensive interior compartmentalization and increased armor protection of certain critical interior spaces.

<sup>7</sup> Battle force ships are ships that are readily deployable overseas and which contribute to the overseas combat capability of the Navy. They include both active duty and Naval Reserve Force combat ships as well Navy- and Military Sealift Command-operated auxiliaries — such as oilers, ammunition ships, dry cargo ships, and multiproduct resupply ships — that transport supplies from shore to Navy combat ships operating at sea.

<sup>8</sup> LHA can be translated as landing ship, helicopter-capable, assault. LHD can be translated as landing ship, helicopter-capable, well deck. LSD can be translated as landing ship, well deck. LPD can be translated as landing ship, helicopter platform, well deck. Whether noted in the designation or not, all these ships have well decks.

<sup>9</sup> For comparison, a Nimitz-class nuclear-powered aircraft carrier displaces about 100,000 tons, and a cruiser or destroyer displaces about 9,000 tons.



- **12 Whidbey Island/Harpers Ferry (LSD-41/49) class ships**, commissioned between 1985 and 1998, each displacing about 16,000 tons; and
- **11 Austin (LPD-4) class ships**, commissioned between 1965 and 1971, each displacing about 17,000 tons.<sup>10</sup>

These 35 amphibious ships are notionally organized into 12 expeditionary strike groups (ESGs). Each ESG notionally includes one LHA or LHD, one LSD, and one LPD. The amphibious ships in an ESG together can embark a Marine expeditionary unit (MEU) consisting of about 2,200 Marines, their aircraft, their landing craft, their combat equipment, and about 15 days worth of supplies. Each ESG also notionally includes three surface combatants (some or all armed with Tomahawk cruise missiles), one submarine, and perhaps one or more P-3 long-range, land-based maritime patrol aircraft. ESGs are designed to be independently deployable, strike-capable naval formations, but they can also operate in conjunction with carrier strike groups (CSGs) to form larger naval task forces.<sup>11</sup> On average, two or three ESGs might be forward-deployed at any given time.

For many years, the fiscally constrained requirement for the amphibious fleet has been for the force collectively to be able to lift (i.e., transport) the assault echelon of 2.5 Marine Expeditionary Brigades (MEBs).<sup>12</sup> A MEB is a Marine force that includes 15,000 to 17,000 Marines and their equipment. The 35-ship amphibious force in place as of the end of FY2004 meets 2.5-MEB requirement in some regards but not others. In particular, it does not satisfy the requirement in terms of space for the Marines' ground vehicles.<sup>13</sup>

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<sup>10</sup> The Navy also operates two Blue Ridge (LCC-19) class command ships. As their designation suggests, these ships were originally built as amphibious command ships. In recent years, they have evolved into general fleet command ships. Some listings of U.S. Navy ships include the two LCCs as amphibious ships, while others list them in a separate category of command ships, along with two other fleet command ships — the La Salle (AGF-3) and the Coronado (AGF-11), which themselves are converted LPDs.

<sup>11</sup> The ESGs is a new kind of naval formation. Prior to the ESG concept, the Navy's amphibious ships were notionally organized into 12 amphibious ready groups (ARGs). Each ARG included one LHA or LHD, one LSD, and one LPD. Because ARGs lacked surface combatants, submarines, and P-3 aircraft, they were not considered suitable for independent operations in high-threat areas. The Navy is now converting its ARGs into ESGs, using surface combatants transferred from CSGs. (CSGs were previously called aircraft carrier battle groups, or CVBGs.)

<sup>12</sup> For many years, the fiscally unconstrained requirement has been for a fleet that can lift the assault echelons of 3.0 MEBs.

<sup>13</sup> An August 2003 report on sea basing by the Defense Science Board (DSB) states: "The current 36-ship amphibious force has the resources to embark two [Marine expeditionary] brigades of approximately 13,100 Marines each. U.S. Defense Science Board, Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, *Defense Science Board Task Force on Sea Basing*, Aug. 2003, p. 15.



**Maritime Prepositioning Ships.** Maritime prepositioning ships are large military cargo ships that are loaded with combat equipment and supplies and forward-located to sea areas that are close to potential U.S. military operating zones. They are essentially forward-located, floating warehouses. Most have a roll-on/roll-off (RO/RO) capability, which means that they are equipped with ramps that permit wheeled or tracked vehicles to quickly roll on or off the ship when the ship is at pier.

A total of 36 U.S. prepositioning ships, controlled by the Military Sealift Command (MSC), store equipment and supplies for various parts of DOD. The 16 ships used primarily for storing Marine Corps equipment and supplies are called Maritime Prepositioning Force (MPF) ships. The 10 ships used primarily for storing equipment and supplies for the Army are called the Combat Prepositioning Force. The remaining 10 ships used primarily for storing equipment and supplies for the Air Force, Navy, and Defense Logistics Agency are called Logistics Prepositioning Ships. This report focuses on the 16 MPF ships.

The 16-ship MPF fleet is organized into three squadrons of five or six ships each. Each squadron stores enough combat equipment and supplies to equip and support a MEB for a period of 30 days. One squadron is normally forward-located in the Atlantic or Mediterranean, one is normally forward-located in the Indian Ocean at Diego Garcia, and one is normally forward-located in the Western Pacific at Guam and Saipan.<sup>14</sup>

The MPF ships are designed to support Marine landings at friendly ports or ports that Marines or other U.S. or friendly forces have previously seized by force. Under the basic MPF concept of operations, the MPF ships would steam into such a port, while Marines would be flown into a nearby friendly or seized airbase. The Marines would then travel to the port, help unload the MPF ships, unpack and “marry up” with their equipment and supplies, and begin conducting their operations ashore. MPF operations can be used to reinforce an initial Marine presence ashore that was created by a Marine landing against opposing forces, or to establish an initial Marine presence ashore in a permissive or benign landing environment.

The MPF concept permits a MEB-sized Marine force to be established in a distant operating area more quickly than would be possible if the MEB’s equipment and supplies had to be transported all the way from the United States. Unlike prepositioning of equipment and supplies on the soil of foreign countries, maritime prepositioning in international waters does not require permanent host nation access. The MPF concept also provides a degree of inter-theater operational flexibility, since an MPF squadron can be moved from one theater (e.g., the Mediterranean) to an adjoining theater (e.g., the Indian Ocean) relatively quickly if needed to respond to a contingency. DOD used the Mediterranean and Western Pacific MPF squadrons to supplement the Indian Ocean MPF squadron in the 1991 Gulf War (Operation Desert Storm) and the more recent Iraq War (Operation Iraqi Freedom).

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<sup>14</sup> The maritime prepositioning ships serving the other military services are located principally at Diego Garcia.

MPF ships are DOD sealift ships operated with civilian crews. They are built to survivability standards similar to those of commercial cargo ships, which are lower than those of U.S. Navy combat ships. They are not included in the total number of battle force ships in the Navy.<sup>15</sup> MPF ships are designated TAKs. The “T” means the ships are operated by the MSC; the “A” means auxiliary; and the “K” means cargo.

The MPF force was established in the mid-1980s. It includes 13 ships (TAK-3000 through TAK-3012) that entered service with the MPF in 1984-1986, and three ships (TAK-3015 through TAK-3017) that were added to the MPF fleet in 2000-2003 under the MPF Enhancement, or MPF(E), program, so as to increase the storage capacity of the MPF force in accordance with lessons learned during the 1991 Gulf War. One MPF(E) ship was added to each squadron.

The 13 earlier MPF ships, which each displace between about 44,000 and 49,000 tons, are owned and operated by private companies under 25-year charters (i.e., leases) to MSC. The three more recently added MPF(E) ships, which each displace between about 50,000 and 55,000 tons, are owned by the U.S. government and are operated by private companies under contract to MSC.

Since FY1993, new-construction DOD sealift ships similar to the MPF ships have been procured not in the SCN account, but rather in the National Defense Sealift Fund (NDSF), a DOD revolving fund that is outside both the Department of the Navy budget and the procurement title of the annual DOD appropriation act. NDSF funding is used for acquiring, operating, and maintaining DOD sealift ships and certain Navy auxiliary ships.

As of the end of FY2004, the MPF fleet included the following ships:

- **5 Cpl. Louis J Hauge Jr. (TAK-3000) class ships**, which were originally built in Denmark in 1979-1980 as civilian cargo ships for Maersk Line Ltd. Their conversions into MPF ships began in 1983-1984. The ships are owned and operated by Maersk.
- **3 Sgt. Matej Kocak (TAK-3005) class ships**, which were originally built in the United States in 1981-1983 as civilian cargo ships for the Waterman Steamship Corporation. Their conversions into MPF ships began in 1982-1983. The ships are owned and operated by Waterman.
- **5 2<sup>nd</sup> Lt. John P. Bobo (TAK-3008) class ships**, which were built in the United States in 1985-1986 as new-construction ships for the MPF. They are owned and operated by American Overseas Marine.

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<sup>15</sup> In contrast to Navy auxiliaries that are counted as battle force ships because they transport supplies from land to Navy ships operating at sea, MPF ships, like most other DOD sealift ships, transport supplies from one land mass to another, primarily for the benefit of a service (in this case, the Marine Corps) other than the Navy.

- **1 1<sup>st</sup> Lt. Harry L. Martin (TAK-3015) class ship**, which was originally built in Germany in 1980 as a civilian cargo ship. Its conversion into an MPF ship began in 1999.
- **1 LCPL Roy M. Wheat (TAK-3016) class ship**, which was originally built in Ukraine as a Soviet auxiliary ship. It was acquired for conversion in 1997.<sup>16</sup>
- **1 Gunnery Sgt. Fred W. Stockham (TAK-3017) class ship**, which was originally built in Denmark in 1980 as a commercial cargo ship. In the early 1990s, it was acquired for conversion into a kind of DOD sealift ship called a large, medium-speed, roll-on/roll-off (LMSR) ship. It was used by MSC as an LMSR under the name Soderman (TAKR-299) until 2000, when it was converted into an MPF(E) ship, and renamed the Stockham.<sup>17</sup>

## Planned Ship Procurement in FY2006-FY2011 FYDP

### Amphibious Ships.

**LPD-17 Program.** As a replacement for the 11 aging LPDs and other amphibious ships that have already been decommissioned, the Navy is currently procuring new San Antonio (LPD-17) class amphibious ships. A total procurement of 12 LPD-17s — one for each ESG — was originally planned. A force of 36 amphibious ships that includes 12 LPD-17s would meet the longstanding 2.5-MEB lift requirement for the amphibious fleet in all respects, including space for ground vehicles.

The first LPD-17 was procured in FY1996. A total of seven have been procured through FY2005. The FY2006-FY2011 FYDP reduces planned procurement of LPD-17s to a total of nine ships, with the final two ships to be procured in FY2006 and FY2007. The Navy's FY2006 budget requests \$1,353.4 million for procurement of the eighth ship.

The first LPD-17, which encountered a roughly two-year delay in design and construction, was presented to the Navy for acceptance in late June 2005. A Navy inspection of the ship conducted June 27-July 1, 2005 found numerous construction

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<sup>16</sup> The conversion of this ship took considerably longer than expected and was the subject of a lawsuit. For discussion, see Christopher J. Castelli, "MSC Names and Deploys MPF(E) Vessel, While Bender Pursues Lawsuit," *Inside the Navy*, Oct. 13, 2003; Christopher J. Castelli, "Finally, MSC Plans to Name Converted Cargo Ship This October," *Inside the Navy*, Aug. 25, 2003; Christopher J. Castelli, "MSC: Beleaguered Cargo Vessel to Make First Deployment This Year," *Inside the Navy*, June 2, 2003; Christopher J. Castelli, "MSC Postpones Wheat Christening, Citing Current Military Ops," *Inside the Navy*, Feb. 17, 2003; Christopher J. Castelli, "Cargo Ship Mired in Conversion Process to Reach Fleet In 2003," *Inside the Navy*, Jan. 6, 2003.

<sup>17</sup> Another LMSR was built as a new-construction LMSR and named the Soderman (TAKR-317).

deficiencies.<sup>18</sup> Since the start of the program, the estimated unit procurement cost of the follow-on ships in the program has grown from roughly \$750 million to about \$1.2 billion to \$1.35 billion — an increase of roughly 60% to 80%. The ships are built primarily at Northrop Grumman's Avondale shipyard near New Orleans, LA.<sup>19</sup>

**LHD-8.** To replace one of its five aging LHAs, the Navy in FY2002 procured LHD-8 — an eighth Wasp-class ship<sup>20</sup> — at a total budgeted cost of about \$2.06 billion. At the direction of the FY2000 and FY2001 defense appropriation bills, this ship is being incrementally funded in the SCN account, with the final increment of funding scheduled for FY2006. This ship is scheduled to enter service in October 2007. This ship is being built by Northrop Grumman's Ingalls shipyard at Pascagoula, MS, the builder of all previous LHAs and LHDs. The Navy's FY2006 budget requests \$197.8 million as the final funding increment for the ship.

**LHA(R) Program.** To replace other aging LHAs, the Navy plans to procure a new-design amphibious assault ship called the LHA Replacement ship, or LHA(R). The FY2006-FY2011 FYDP calls for procuring the first LHA(R) in FY2007 and the second in FY2010. The LHA(R) design has changed over time. The Navy at one point appeared to have settled on a so-called "plug-plus" design — a design based on a longer and wider version of the basic Wasp-class hull. This design, however, reportedly would have cost an estimated \$3.7 billion to procure, including \$800 million in design and engineering costs.

The Navy announced in 2004 that it was dropping the plug-plus design in favor of a less expensive design based on the current Wasp class hull. This new design, the Navy stated, would have enhanced aviation features compared to the basic Wasp-class design, but would lack a well deck, making it the first amphibious ship in decades built without a well deck. The sacrifice of the well deck appears to be, in part at least, a consequence of building enhanced aviation features and other improvements into the design while staying within the envelope of the Wasp-class hull. The estimated cost to design and build this ship is about \$2.7 billion. This ship, if procured, would almost certainly be built at Northrop Grumman's Ingalls shipyard.

### Maritime Prepositioning Ships.

**MPF Lease Buyout.** The FY2006 budget requests \$749.8 million in the National Defense Sealift Fund (NDSF) to buy out (i.e., exercise the purchase options

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<sup>18</sup> Associated Press, "Shipbuilder: Navy Will Accept New Vessel," *NavyTimes.com*, July 21, 2005; Christopher J. Castelli, "Naval Inspection Report Finds Numerous Problems With LPD-17," *Inside the Navy*, July 18, 2005; Dale Eisman and Jack Dorsey, "Problems On New Ship A Bad Sign, Analyst Warns," *Norfolk Virginian-Pilot*, July 14, 2005; Nathan Hodge, "Navy Inspectors Flag 'Poor Construction' On LPD-17," *Defense Daily*, July 14, 2005. A copy of the Navy's inspection report, dated July 5, 2005, is posted online at <http://www.coltoncompany.com/comment/lpd17insurv.htm>

<sup>19</sup> LPD-17-related work is also done at Northrop's Ingalls shipyard at Pascagoula, MS, and at a third Northrop facility at Gulfport, MS. The Avondale, Ingalls, and Gulfport facilities together make up Northrop Grumman Ship Systems (NGSS).

<sup>20</sup> LHD-8 will differ from the earlier LHDs in terms of propulsion plant and other respects.



on ) the leases on the 13 older MPF ships. Buying out the leases means DOD would purchase the 13 ships from the private companies that currently lease them to DOD. DOD estimates that buying out the leases on the 13 ships would save about \$840 million in payments between FY2006 and FY2020 (when the last of the 13 ships is to be phased out of service). Since five of these 13 ships (the TAK-3000 class ships) were built in a foreign country (Denmark), DOD needs, and has requested, legislative authority to spend NDSF funds to purchase these five ships.<sup>21</sup> The owners of some of these 13 ships reportedly believe that the Navy has underestimated the market value of their ships, and that buying out the leases on them would cost at least \$500 million more than the Navy has budgeted.<sup>22</sup>

**MPF(F) Program.** As an eventual replacement for the current MPF ships, the FY2006-FY2011 FYDP includes a next-generation MPF ship called the MPF (Future), or MPF(F). The FYDP calls for procuring the first MPF(F) in FY2009, a second MPF(F) in FY2010, and two more in FY2011. Navy officials stated at one point that they might require as many as 18 MPF(F)s.

MPF(F)s were to have three capabilities lacking in today's MPF ships. First, consistent with the sea basing concept (see discussion below), the MPF(F) ships were to have features permitting Marines to marry-up with their equipment and supplies at sea rather than in a friendly port — so-called at-sea arrival and assembly of forces. Second, unlike today's MPF ships, which are somewhat like a loading van in that they sometimes must be fully unloaded to gain access to desired items that are loaded behind other things, MPF(F) ships were to be more like a grocery store with isles, so that they would support selective unloading at sea of specific items that are wanted for transport ashore. And third, the MPF(F) ships were to be capable of more rapid reloading than today's MPF ships, so that they could be more quickly deployed to a potential subsequent contingency elsewhere.

MPF(F)s, being more capable than today's MPF ships, were to have been considerably larger than today's MPF ships — with displacements possibly exceeding 100,000 tons<sup>23</sup> — and considerably more expensive to procure than today's MPF ships, costing possibly more than \$1 billion each,<sup>24</sup> compared to less than \$500 million to build a ship like today's MPF ships.<sup>25</sup>

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<sup>21</sup> Christopher J. Castelli, "Pentagon Seeks Authority on Carl Vinson, LHA(R), Prepositioning Ships," *Inside the Navy*, May 2, 2005; Geoff Fein, "Navy Underestimated Cost to Buyout Leases on MSC Ships, Source Says," *Defense Daily*, May 10, 2005.

<sup>22</sup> Geoff Fein, "Navy Underestimated Cost to Buyout Leases on MSC Ships, Source Says," *Defense Daily*, May 10, 2005.

<sup>23</sup> *Defense Science Board Task Force on Sea Basing*, op. cit., p. 53.

<sup>24</sup> *Ibid.*, p. 85.

<sup>25</sup> For press reports with additional discussion on potential MPF(F) design features, see Jason Ma, "Clark: STOVL Joint Strike Fighter Could Surge from Future MPF Ships," *Inside the Navy*, June 21, 2004; Lorenzo Cortes, "Navy Could Start Work on MPF (Future) by 2007, Official Says," *Defense Daily*, Apr. 26, 2004; Jim Wolf, "Navy Seeking More Muscle at Sea," *Boston Globe*, Apr. 24, 2004; Jason Sherman, "A Cargo Ship with a JSF Runway?"

(continued...)

Although the FY2006-FY2011 FYDP submitted to Congress in February 2005 calls for the procurement of MPF(F)s starting in FY2009, a Navy report on the MPF(F) program submitted to Congress in June 2005 effectively cancels the MPF(F) program and converts the term MPF(F) into a generic term that refers to the future collection of ships of other types of ships that will implement the sea basing concept. (See discussion below on the sea basing concept.)

**Sealift Connector Ships.** As part of its plan for implementing its sea basing concept (see discussion below), the Navy plans to procure two new types of sealift “connector” ships called intratheater connectors and sea-shore connectors. The purpose of these ships would be to transport equipment and personnel within a sea base’s theater of operations, and from the sea base to an operating area ashore.

**Intratheater Connectors.** The FY2006-FY2011 FYDP calls for procuring the first of these ships in FY2009, another in FY2010, and a third in FY2011.

**Sea-Shore Connectors.** The FY2006-FY2011 FYDP calls for procuring the first of these ships in FY2010 and four more in FY2011.

## Sea Basing Concept

The Navy and Marine Corps are developing a new concept of operations for conducting expeditionary operations ashore called enhanced networked sea basing, or sea basing for short. Under the current concept of operations for conducting expeditionary operations ashore, the Navy and Marine Corps would establish a foothold ashore, and then use that foothold as a base from which to conduct operations against the desired ashore objective. Under sea basing, the Navy and Marine Corps would launch, direct, and support expeditionary operations directly from a base at sea, without necessarily establishing an intermediate base ashore. Many of the details of the sea basing concept have yet to be worked out; Navy and Marine Corps officials are currently working to produce a more refined notion of the concept.<sup>26</sup>

A key rationale for the sea basing concept is that in the future, fixed land bases ashore will become vulnerable to enemy attack from weapons such as cruise missiles or short-range ballistic missiles, and that launching the operation directly from a base at sea will enhance the survivability of the attacking Navy-Marine Corps force by

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<sup>25</sup> (...continued)

*Defense News*, Mar. 15, 2004, pp. 1, 8; Christopher J. Castelli, “Budget Anticipates Developing MPF(F) Aviation Variant from LMSR,” *Inside the Navy*, Jan. 19, 2004; Hunter Keeter, “Clark, Hagee Sound Off about MPF (Future) Program,” *Defense Daily*, Apr. 7, 2003, p. 10; Christopher J. Castelli, “Pentagon Launches Study for Yet-to-Be-Developed MPF(F) Ships,” *Inside the Navy*, Feb. 3, 2003.

<sup>26</sup> For an in-depth discussion of the sea basing concept, see *Defense Science Board Task Force on Sea Basing*, op. cit. See also Otto Kreisher, “Sea Basing,” *Air Force Magazine*, July 2004, p. 64; Scott C. Truver, “Sea Basing: More Than the Sum of Its Parts?” *Jane’s Navy International*, Mar. 2004, pp. 16-18, 20-21; Art Corbett and Vince Goulding, “Sea Basing: What’s New?” *U.S. Naval Institute Proceedings*, Nov. 2002, pp. 34-39.



putting the base out of the range of shorter-range enemy weapons and targeting sensors, and by permitting the sea to be used as a medium of maneuver for evading detection and targeting by longer-range enemy weapons and sensors.

A second rationale for sea basing is that by eliminating the intermediate land base — the logistical “middleman” — sea basing will permit the Marine Corps to initiate and maintain a higher pace of operations against the desired objective, thus enhancing the effectiveness of the operation. A third rationale for sea basing is that it could permit the Marine force, once the operation is completed, to reconstitute and redeploy — that is, get back aboard ship and be ready for conducting another operation somewhere else — more quickly than under the current concept of operations.

The Defense Department has expressed some interest in sea basing as a potential joint concept that could involve Army and Air Force forces as well as the Navy and Marine Corps.<sup>27</sup> The Defense Science Board (DSB) in August 2003 issued a report on sea basing which concluded that “sea basing represents *a critical future joint military capability* for the United States.”<sup>28</sup>

The sea base being referred to is not a single ship, but rather a collection of amphibious ships, maritime prepositioning ships, and intratheater and sea-shore connector ships that is supported by an aircraft carrier strike group. Under sea basing, certain functions previously carried out from the intermediate land base, including command and control and logistics, would be transferred back to the ships at sea that collectively make up the sea base.

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<sup>27</sup> Jason Sherman and David Brown, “Pentagon to Create Multiservice Sea Basing Requirements Office,” *Defense News*, Dec. 8, 2003, p. 30; Catherine MacRae, “Aldridge Wants Top Defense Scientists to Study Future of Seabasing,” *Inside the Pentagon*, Nov. 14, 2002, p. 1. For articles discussing the potential joint aspects of sea basing, see Otto Kreisher, “Sea Basing,” *Air Force Magazine*, July 2004, p. 64; Ann Roosevelt, “Army, Navy Collaborating on Sea Basing Concept,” *Defense Daily*, June 30, 2004, p. 3; Lisa Troshinsky, “Army Logistics Using Sat Network, Planning for Sea-Based Capability,” *Aerospace Daily & Defense Report*, June 30, 2004, pp. 3-4; Scott C. Truver, “Seabasing: More Than the Sum of Its Parts?” *Jane’s Navy International*, Mar. 2004, pp. 16-18, 20-21; John J. Klein, “Sea Basing Isn’t Just about the Sea,” *U.S. Naval Institute Proceedings*, Jan. 2004, pp. 32-35;

<sup>28</sup> *Defense Science Board Task Force on Sea Basing*, op.cit., p. xi. Italics as in the original. Similar statements are made in two cover memos included at the front of the report, and on p. 87. For press reports about this study, see John T. Bennett, “Marine Corps Commandant, DSB Describe Visions of Seabasing Concept,” *Inside the Pentagon*, Oct. 30, 2004; Jason Ma, “DSB Study, Conference Examine Seabasing Needs and Challenges,” *Inside the Navy*, Oct. 27, 2003; Jason Sherman, “Pentagon Group Details Sea Base Concept,” *Defense News*, Oct. 27, 2003.

In June 2005, the Navy submitted a report to Congress on the MPF(F) program<sup>29</sup> that was required by the conference report (H.Rept. 108-622 of July 20, 2005) on the FY2005 defense appropriations bill (H.R. 4613/P.L. 108-287 of August 5, 2004).<sup>30</sup> As mentioned earlier, the June 2005 Navy report effectively cancels the MPF(F) program and converts MPF(F) into a generic term that refers to the future collection of ships of other types that will implement the sea basing concept.

The report states that the future MPF(F) squadron is to consist of 14 ships, including 12 new-construction ships and 2 existing MPF ships. The 2 existing MPF ships are now referred to as “dense packed” or “dense pack” ships.

The report states that MPF(F) operational requirements include, among other things, an ability to employ two Marine battalions from the sea base — one by surface transportation and the other by air transportation (i.e., “vertically”) — in a period of 8 to 10 hours.

The report states:

In accordance with DoD guidance, the Navy conducted an Analysis of Alternatives (AoA) that investigated alternative means to provide required MPF(F) operational capabilities. It investigated using new construction ships, existing ship classes, modified existing ships and other product lines. The initial result of the AOA was that new construction ships provide the most capability at least cost with the earliest operational capability. The AoA examined two variations on the new construction ships concept: (1) distributed capability (squadrons of ships of the same hull form which combined the surface and air launched battalion capabilities); and (2) the family of ships (squadrons of logistic/Roll-on Roll-off (RO-RO) ships for the surface launched battalion and aviation support ships for the air launched battalion). [Neither approach could meet] the required delivery timeline of 8 to 10 hours for the first surface battalion.

Following the completion of the AOA, the Navy conducted additional design and sea basing studies to explore various [MPF(F)] squadron configurations in order to arrive at potential squadrons which met all requirements, leveraged the skills resident in the industrial base, increased the optimization of each ship for their respective missions, and reduced cost and production risk for the squadron. One other product of this effort was the development of a Mobile Landing Platform (MLP) [ship concept] that provides sufficient surface interface points to permit meeting the above identified 8-10 hours surface assault organically (without external or aviation support). The squadron configuration selected for the

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<sup>29</sup> U.S., Department of Defense Department of the Navy, *Report to Congress, Maritime Prepositioning Force, Future, MPF(F)*. Washington, 2005, 8 pp. (Prepared by Program Executive Officer, Ships, Washington DC 20376, June 2005.) A 20-page appendix to the report provides supporting budget details. Letters of transmission to Congress accompanying the report are dated June 6, 2005.

<sup>30</sup> The requirement for the report on the MPF(F) program is on page 360 of H.Rept. 108-622. For details, see the Legislative Activity section of this CRS report.

MPF(F) consists of 14 ships: 12 new construction ships and two existing dense packed [MPF ships].<sup>31</sup>

The report states that the 12 new-construction ships are as follows:

- 2 modified LHA(R)s equipped with Marine Expeditionary Brigade (MEB) command and control (C2) facilities;
- 1 modified LHD equipped with aviation C2 facilities;
- 3 modified Large, Medium-Speed, Roll-on/Roll-off (LMSR) sealift ships;
- 3 ships modified Lewis and Clark (TAKE-1) class cargo and ammunition resupply ships; and
- 3 MLPs. with troops.<sup>32</sup>

The report states that “This squadron composition will take advantage of existing product lines where possible minimizing new ship design requirements and overall production risk for our shipbuilding industry. Additionally, this new squadron may offer considerable force structure flexibility, as ships assigned to perform the MPF(F) role might be used to augment or support ESG operations and perform other dual roles.”<sup>33</sup>

The report states that the MPF(F) squadron will be able to, among other things:

- accommodate the 2015 version of a Marine Expeditionary Brigade (MEB) consisting of three Marine battalions — two surface battalions and one vertical battalion;
- preposition the 2015 MEB at sea in the desired forward operating area within 10 to 14 days;
- permit that force to arrive and assemble itself at the sea base in 24 to 72 hours;
- employ the vertical battalion and one of the surface battalions in 8 to 10 hours;
- provide accommodations and maintenance capability for vehicles and aircraft;
- sustain the forces ashore from the sea base;

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<sup>31</sup> *Report to Congress, Maritime Prepositioning Force, Future, MPF(F)*, op cit, p. 6.

<sup>32</sup> Ibid, p. 6 and p. 8.

<sup>33</sup> Ibid, p. 6.

- provide medical support, including resuscitative surgery;
- accommodate and operate surface connectors;
- provide MEB-level C2 capability; and
- operate in sea conditions up to Sea State 3 (a moderate sea with waves of 3 feet to 5 feet).

An August 1, 2005, press report stated that the Marine Corps, in a July 28, 2005, presentation to a conference of industry officials, explained that the planned 14-ship MPF(F) squadron would have an estimated combined procurement cost of about \$14.5 billion, as detailed in **Table 1**.

**Table 1. Estimated Procurement Cost Of MPF(F) Squadron**  
(billions of dollars)

Ship Type	Qty	Unit Procurement Cost	Total Procurement Cost
Modified LHA(R)	2	\$2.35	\$4.7
Modified LHD	1	\$2.2	\$2.2
Modified LMSR	3	\$0.98	\$2.94
Modified TAKE	3	\$0.63	\$1.89
MLP	3	\$0.92	\$2.76
Existing MPF	2	\$0 <sup>a</sup>	\$0
<b>TOTAL</b>	<b>14</b>		<b>\$14.49</b>

**Source:** Inside the Navy, August 1, 2005.

a. These two ships already exist.

The press report stated:

The Mobile Landing Platform [MLP] would be a new ship, but its design would be based on the “float-on, float-off” type of ship that carried the [Aegis destroyer] Cole (DDG-67) back to port after an attack in 2000 blew a hole in the hull. The MLPs would be used to transfer cargo and personnel from larger ships to high-speed vessels or air cushion landing craft, [Lt. Gen. Robert Magnus, deputy Marine Corps commandant for programs and resources] said.

The amphibious ships in the future MPF squadron would be built without their full complement of combat systems, said Magnus. The ships would have systems for self-defense, flight operations, communications with other elements of the squadron as well as command and control, he told Inside the Navy in a brief interview. But missing from the ships would be “basic point missile defense” systems, anti-surface ship weapons and undersea warfare systems, he added.

Carrier strike groups or expeditionary strike groups that deploy with MPF squadrons could provide protection, or the MPF ships would stay in safer waters at least 25 miles offshore, he said.

“These ships are going to stay in the protected commons of the sea,” he said.

The LMSR designs would be different too, enabling forces to arrive and prepare for operations while at sea, instead of at a port, Magnus said. But additional work remains in developing an automated cargo handling system for the interior, he noted. Commercial cargo handlers already use such systems, and the Office of Naval Research is developing a selective retrieval machine, which could be tested within the next year, he said.

The future MPF squadron also will carry about 12,000 Marines, including 800 humvees and 106 Expeditionary Fighting Vehicles. During the first day of an operation, about 4,000 Marines would go ashore, followed by another 4,000 over the next few days, he said. The rest would remain on the ships to perform command and control, intelligence, maintenance and logistics duties, he added.<sup>34</sup>

The Navy and Marine Corps have not yet decided whether to replace the current three MPF squadrons with one, two, or three new MPF(F) squadrons.<sup>35</sup>

## Sea Swap Concept

Sea Swap is the term the Navy uses to refer to the concept of sending ships on extended (e.g., 12-, 18-, or 24-month) overseas deployments during which they are operated by multiple crews that are rotated out to the ships in succession. The concept differs considerably from the traditional practice of sending out ships for six-month deployments during which they are operated by single crews.

The goal of Sea Swap is to permit the Navy to maintain a given number of forward-deployed on a day-to-day basis with a smaller total number of ships in the fleet. Under the traditional practice of six-month deployments by single crews, the stationkeeping multiplier — the total number of ships of a certain kind required to keep one ship of that kind continuously in an overseas operating area — can be roughly 6 to 1. By eliminating time-consuming transits of individual ships from home port to operating area and back, shifting to Sea Swap might reduce that stationkeeping multiplier by 25% or perhaps more, potentially permitting a reduction in the size of the Navy needed to meet national needs.

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<sup>34</sup> Jason Ma, “Future MPF Squadron For Seabasing Expected To Cost \$14.5 Billion,” *Inside the Navy*, Aug. 1, 2005; and Christopher P. Cavas, “New U.S. Navy Sea Base Plan Includes Assault Ships,” *DefenseNews.com*, July 14 2005. See also Christopher P. Cavas, “Big Changes For Sea Base,” *Navy Times*, Aug. 1, 2005; and Geoff Fein, “Fleet of 14 MPF(F) Ships Provides Lower Cost/Schedule Risk, Navy Says,” *Defense Daily*, July 12, 2005.

<sup>35</sup> Geoff Fein, “Navy Eyeing Three MPF(F) Fleets, But Numbers Yet Finalized, Official Says,” *Defense Daily*, July 18, 2005.



The Navy in the last couple of years has conducted some experiments in applying the concept to surface combatants, and is now interested in applying the Sea Swap concept to other kinds of Navy ships, including entire ESGs.<sup>36</sup> Navy officials reportedly have suggested that applying the concept to ESGs could permit a reduction in the number of ESGs from 12 to as few as 8.<sup>37</sup>

## Resulting Uncertainty in Ship-Acquisition Plans

Although the Navy's June 2005 report to Congress on its new MPF(F) concept details the composition of the Navy's preferred MPF(F) squadron, ambiguity over aspects of this new plan, plus additional questions raised by the Sea Swap concept, create uncertainty regarding the following aspects of Navy plans for procuring amphibious, maritime prepositioning, and connector ships:

- **Number of MPF(F) squadrons, and thus numbers of new-construction MPF(F) ships.** The Navy and Marine Corps have not yet decided whether to replace today's three MPF squadrons with one, two, or three new MPF(F) squadrons (i.e., 12, 24, or 36 new-construction ships, respectively).
- **Total numbers and types of non-MPF(F) amphibious ships and status of 2.5-MEB amphibious lift goal.** Due in part to the Sea Swap concept, the total number of non-MPF(F) amphibious ships that the Navy plans to maintain in future years is not clear. In March 2005, the Navy submitted a report to Congress providing projections of potential future Navy force levels out to FY2035 that showed two potential fleets for FY2035 — a 260-ship fleet and a 325-ship fleet.<sup>38</sup> The report showed a total of 17 amphibious in the 260-ship fleet and a total of 24 amphibious ships in the 325-ship fleet. Navy officials have made few public comments on whether the long-standing 2.5-MEB lift goal for the amphibious fleet will be retained, modified, or

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<sup>36</sup> For additional discussion of Sea Swap, which is a potential element of Navy transformation, see CRS Report RS21338, *Navy Ship Deployments: New Approaches — Background and Issues for Congress*, by Ronald O'Rourke.

<sup>37</sup> Jason Ma, "LaFleur: Sea Swap Could Keep Amphibious Ship at Sea for 12 Months," *Inside the Navy*, July 19, 2004; Christopher J. Castelli, "Navy Wants to Cut Number of Strike Groups, Slash LPD-17 Shipbuilding," *Inside the Navy*, Apr. 26, 2004; David Brown, "Expeditionary Strike Groups Could Be Trimmed," *NavyTimes.com*, Apr. 23, 2004; Malina Brown, "LaFleur: Navy Working on Applying Sea Swap to an Entire ESG," *Inside the Navy*, Apr. 5, 2004; Ron Laurenzo, "Sea Swap Could Become the Norm," *Defense Today*, Apr. 1, 2004; David Brown, "Saw Swap Experiment Surges Ahead," *NavyTimes.com*, Mar. 31, 2004; Lorenzo Cortes, "Navy Surface Chief Would Eventually Like to Swap an Entire ESG," *Defense Daily*, Apr. 1, 2004; Malina Brown, "Expeditionary Strike Groups to Join Naval Sea Swap Experiment," *Inside the Navy*, Mar. 22, 2004; David Brown, "Sea Swap Could Spread to Expeditionary Strike Groups," *NavyTimes.com*, Mar. 17, 2004.

<sup>38</sup> U.S. Department of the Navy, *An Interim Report to Congress on Annual Long-Range Plan for the Construction of Naval Vessels for FY2006*.



dropped. A force of 17 to 24 amphibious ships could well have a combined lift capacity of less than 2.5 MEBs.

- **Design, unit cost, and total number of LHA(R)s.** Although Navy officials have settled on a design for LHA(R) that is based on the Wasp-class hull, but with enhanced aviation capabilities and no well deck, it is possible that ongoing study of the sea basing concept, combined with more precise estimates of the cost to procure the LHA(R), could lead to further changes in the design (and thus cost) of the ship. The total number of LHA(R)s that the Navy plans to procure is not clear. The March 2005 Navy report to Congress on potential future Navy force levels showed a total of eight LHA(R)s and LHD(X)s for both the 260- and 325-ship fleets. The LHD(X)s would appear to be a new kind of amphibious assault ship that the Navy plans to procure following completion of LHA(R) procurement. The report did not divide the total of eight ships into specific numbers of LHA(R)s and LHD(X)s. The total number of LHA(R)s to be procured may have been affected by the Navy decision, announced in its June 2005 report on the MPF(F), to include LHA(R)s in its preferred MPF(F) squadron.
- **Total number of LPD-17s.** Although the FY2006-FY2011 FYDP proposes to reduce planned procurement of LPD-17s to a total of nine ships, it is possible that this number might change again as a result of further DOD or Navy analysis of available shipbuilding funding and the applicability of the Sea Swap concept to amphibious ships. Marine Corps officials testified in March 2005 that they would prefer a total of ten LPD-17s.<sup>39</sup>
- **Design of MLP ships.** The Navy's June 2005 report on the MPF(F) introduces the MLP as a new ship concept but provides few details on the design of the ship.
- **Design, unit cost, and number of connector ships.** The designs, unit procurement costs, and total numbers of intratheater and sea-shore connector ships are not clear. The March 2005 Navy report on potential future Navy force levels showed, for FY2035, two "HSS" ships and three "High-Speed Connector" (HSC) ships for either the 260- or 325-ship fleet. The report does not make clear whether these HSSs and HSCs are simply alternate names for the intratheater and sea-shore connector ships shown in the FY2006-FY2011 FYDP, or different ships. One possible translation for HSS is high-speed sealift. It is not clear whether the numbers of these ships shown in the March 2005 Navy report on potential future force levels has been affected by the June 2005 Navy report on the MPF(F).

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<sup>39</sup> See, for example, Jason Ma, "Hagee Prefers 10 LPD-17s, Declares Nine the 'Absolute Bare Minimum,'" *Inside the Navy*, Mar. 14, 2005; and Jason Ma, "Hagee Notes Need for Future Big-Deck Amphibious, Prepositioning Ships," *Inside the Navy*, Mar. 21, 2005.

The Navy's June 2005 report to Congress on the MPF(F) concept, and the associated uncertainty over aspects of the Navy's plans for procuring amphibious, maritime prepositioning, and connector ships, suggests that the plan for procuring these ships in the FY2007-FY2011 FYDP to be submitted to Congress in February 2006 will differ from the plan shown in the FY2006-FY2011 FYDP submitted to Congress in February 2005. The line item in the FY2006-FY2011 FYDP for procuring a specific new class of ships called MPF(F)s starting in FY2009 will presumably be eliminated, new line items for procuring modified LMSRs, MLPs, and one or more modified LHDs might be inserted, and the line item for procuring TAKEs might be amended to include one or more additional ships.

## Oversight Issues for Congress

The current situation regarding Navy plans for amphibious, maritime prepositioning, and connector ships raises potential oversight issues for Congress on the following issues:

- the clarity of the sea basing concept;
- the potential affordability and cost-effectiveness of the sea basing concept;
- Navy and Marine Corps coordination with other services in developing the sea basing concept;
- the applicability of the Sea Swap concept to entire ESGs; and
- the role of industrial-base considerations in Navy planning for procuring amphibious and maritime prepositioning ships.

## Clarity of Sea Basing Concept

Although the Navy's June 2005 report to Congress on the MPF(F) concept provides some details for implementing the sea basing concept, other details remain unclear. Potential oversight and policy questions for Congress include the following:

- When does DOD plan to present to Congress a more comprehensive description of the sea basing concept that includes, for example, information on numbers and types of connector ships required, or required changes in Marine Corps aviation assets or ground combat equipment?
- How does the current lack of a more comprehensive description of sea basing affect Congress's ability to conduct effective oversight of programs that might be affected by the concept, including amphibious and maritime prepositioning ship programs?
- Should Congress direct DOD to present a more comprehensive plan on sea basing by a date certain?<sup>40</sup>

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<sup>40</sup> See also Ann Roosevelt, "Sea Basing Concept Needs Refinement, SASC, Some Experts (continued...)"

## Affordability and Cost-Effectiveness of Sea Basing

Assessing the potential affordability of the sea basing concept is made difficult by the current uncertainty in the Navy and Marine Corps over whether to procure one, two, or three new MPF(F) squadrons. A second potential issue concerns the accuracy of the Navy's procurement cost estimates for the new-construction sea basing ships (see **Table 1**). If these estimates turn out to be too low, the sea basing concept would be more difficult to afford. Navy ship construction costs in recent years have risen more quickly than some anticipated. Several recent Navy ships procured in recent years have turned out to be more expensive to build than the Navy originally projected,<sup>41</sup> and some analysts believe the Navy is currently underestimating the procurement cost of proposed ships such as the DD(X) destroyer.<sup>42</sup>

Fully implementing the sea basing concept, moreover, would involve more than simply procuring the new-construction ships in the proposed MPF(F) squadron. As discussed in the 2003 DSB report on sea basing, implementing the concept would involve a variety of significant development and procurement efforts for ships, air and surface transport (i.e., connector) vehicles, C4ISR systems, supporting satellite bandwidth capacity, and other items.<sup>43</sup> The costs of most of these development and procurement efforts are currently not well understood, making it difficult to assess the potential overall affordability of the sea basing concept.

The 2003 DSB report states that "The funding challenges presented by the [efforts needed to implement sea basing] are significant."<sup>44</sup> A supporting background paper on sea basing that was printed in the 2003 DSB report as an appendix states:

In a world of pure number crunching, sea basing is vulnerable on two counts. First, even in its present form, it is expensive in terms of the manpower and resources it consumes in procurement and maintenance. It is certainly more expensive than land basing. With the probability that defense budgets will decline in the near future, the costs of sea basing will inevitably confront challenges from within the Department [of Defense], as well as from critics of military spending on the outside. It may well become increasingly difficult not only to achieve higher levels of support for the research and development necessary to test and procure the technologies and equipment required by new

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<sup>40</sup> (...continued)

Say," *Defense Daily*, May 27, 2005.

<sup>41</sup> See, for example, Government Accountability Office, *Defense Acquisitions[:] Improved Management Practices Could Help Minimize Cost Growth in Navy Shipbuilding Programs*. (GAO-05-183, February 2005)

<sup>42</sup> For a discussion, see CRS Report RL32109, op cit.

<sup>43</sup> Other new items that might be need to be developed and acquired to fully implement sea basing include C4ISR (command and control, communications, computers, intelligence, surveillance, and reconnaissance) systems and additional secure military satellite bandwidth capability.

<sup>44</sup> *Defense Science Board Task Force on Sea Basing*, op. cit., p. 85.

and innovative concepts, but even to defend current levels of spending for sea-basing capabilities.<sup>45</sup>

Robert Work, a naval analyst at the Center for Strategic and Budgetary Assessments (CSBA),<sup>46</sup> has characterized sea basing as “a rich man’s approach to solving the [access denial] problem.”<sup>47</sup>

A November 2004 Congressional Budget Office (CBO) report on the Navy’s amphibious and maritime prepositioning ship forces states the following:

Carrying out the Navy’s plan for amphibious and maritime prepositioning forces would require spending an average of \$2.4 billion a year (in 2005 dollars) on ship construction between 2005 and 2035, CBO estimates — more than twice the Navy’s average annual spending to build amphibious and maritime prepositioning ships between 1980 and 2004....

That planned increase in spending comes at a time when Navy officials are envisioning other modernization programs — for surface combatants, submarines, aircraft carriers, and support ships — that would also require greater spending on ship construction. Building the proposed 375-ship fleet would cost an average of about \$19 billion annually through 2035, CBO estimates, compared with average funding of less than \$12 billion a year since 1980. Spending on amphibious and maritime prepositioning ships would represent about 12 percent of total shipbuilding costs, up from an average of 9 percent between 1980 and 2004....

Many questions remain about the future size of the Navy’s amphibious forces and the viability of the sea-basing concept. The Navy may find that modernizing its amphibious warfare force and purchasing new MPF(F) vessels are difficult to afford simultaneously. Some Navy officials have suggested reducing the number of L-class ships in order to buy the MPF(F)s....

CBO constructed four alternative plans for the future of amphibious and maritime prepositioning forces that would lessen the funding challenge the Navy is facing with its shipbuilding budget as a whole and with those forces in particular. All of the alternatives would result in a smaller amphibious force than exists today, and some would result in a smaller prepositioning force as well....

CBO found no alternative that could do more with less. Saving money on the amphibious warfare and maritime prepositioning forces, relative to the Navy’s plan, requires buying fewer ships and thus having less capability. Unless

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<sup>45</sup> Williamson Murray, “Thoughts on Sea Basing in the Twenty-First Century,” printed as Appendix D in *Defense Science Board Task Force on Sea Basing*, op. cit., pp. 113-114. The second vulnerability, Williamson stated, “will come from those who argue for massive reliance on the technological revolution in communications and computing power that is so rapidly altering the face of the First World.”

<sup>46</sup> CSBA is an independent organization that conducts research and writes reports on military issues.

<sup>47</sup> As quoted in Otto Kreisher, “Sea Basing,” *Air Force Magazine*, July 2004. Material in brackets as in the article.

the Navy can provide a level of resources equivalent to that required to implement its current plan, choices will have to be made about how to structure those forces in the future.<sup>48</sup>

Although sea basing offers potential advantages in terms of eliminating vulnerable intermediate land bases, enabling higher-paced operations ashore, and permitting more rapid reconstitution and redeployment of the expeditionary force, uncertainty regarding the total potential cost to implement sea basing makes it difficult to assess its potential cost-effectiveness compared to alternative concepts for conducting future expeditionary operations ashore or compared to programs for meeting other, unrelated defense priorities. Potential alternative concepts for conducting future expeditionary operations include making improvements to today's capabilities for conducting amphibious operations and making improvements to Army capabilities for inserting airborne forces.<sup>49</sup>

Potential oversight and policy questions for Congress include the following:

- If the procurement costs of the new-construction ships in the proposed MPF(F) squadron turn out to be higher than the Navy estimates, how might this affect the affordability of the sea basing concept?
- When does DOD intend to present to Congress an estimate of the potential total cost to fully implement all aspects of the sea basing concept? How does the current absence of such an estimate affect Congress's ability to assess the potential affordability of sea basing or its potential cost effectiveness compared to potential alternatives for conducting future expeditionary operations ashore or compared to programs for meeting other defense priorities?
- Would an ability to employ one surface Marine battalion and one vertical Marine battalion from a sea base in a period of 8 to 10 hours be worth the cost to field this capability? What are the potential costs and merits of alternatives to sea basing for conducting future expeditionary operations ashore? How do land bases and sea bases compare in terms of vulnerability to attack and cost to defend against potential attacks of various kinds?
- What other defense programs might need to be reduced to finance the implementation of sea basing?
- What are the potential operational risks of not implementing sea basing?

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<sup>48</sup> U.S. Congressional Budget Office, *The Future of the Navy's Amphibious and Maritime Prepositioning Force*, Nov. 2004, pp. xiii-xv. See also Aarti Shah, "Unclear Seabasing Concept, High Costs Worry Military Officials," *Inside the Navy*, Feb. 14, 2005.

<sup>49</sup> See also John P. Patch, "Sea Basing: Chasing the Dream," *U.S. Naval Institute Proceedings*, May 2005: 38-43.



## Coordination with Other Services on Sea Basing

A third potential oversight issue for Congress is whether development of the sea basing concept should be led by the Navy and Marine Corps or by a joint DOD office. The 2003 DSB report on sea basing repeatedly expressed the view that sea basing should be developed as a joint (rather than Navy-Marine Corps) operational concept and recommended the creation of a joint DOD office to lead the effort. The foreword to the DSB report states:

A central authority must orchestrate the development of sea basing concepts, systems and concepts of operation. History suggests that sea basing has never been exclusively limited to Navy and Marine operations. The Air Force and particularly the Army must participate in the development and use of this joint military operational capability which lies at the intersection of traditional special operations forces, Marine and Army operations. Sea basing represents a crucial option for future warfare by all the Services and an important element in the transition between early entry and follow-on operations. A joint program authority must lead the effort.<sup>50</sup>

The report's executive summary states:

The complexity and difficulty of developing the "system of systems" that will enable robust sea basing necessitates a coordinated development effort to ensure a consistent set of goals, requirements and priorities. The [DSB] Task Force sees this as a joint effort to produce a capability for joint use — a Department-level responsibility that involves all Services. Achieving both interoperability and intermodality transfer demands a seamless, rapid and efficient design that is fully joint.<sup>51</sup>

The main body of the report states that the strategic and political environment "suggests the need for sea basing to become something more than just the property of the Navy and Marine Corps."<sup>52</sup> At a later point, the report states:

What is crucial to moving the seabase beyond its Navy and Marine Corps antecedents is the need for other services to tailor their seaborne prepositioning concepts to those of the maritime prepositioning force. Moreover, the tailoring of at least part of the [Army's] 101<sup>st</sup> [Airborne Division] to operate off a seabase, as it did during the Haiti crisis, would substantially increase the nation's ability to project power from the sea.<sup>53</sup>

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<sup>50</sup> *Defense Science Board Task Force on Sea Basing*, op. cit., p. v.

<sup>51</sup> *Ibid.*, p. viii.

<sup>52</sup> *Ibid.*, p. 8.

<sup>53</sup> *Ibid.*, p. 28. Editorial note: The Army unit that operated from a sea base (a Navy aircraft carrier) during the 1994 Haiti crisis was the Army's 10<sup>th</sup> Mountain Division rather than the 101<sup>st</sup> Airborne Division. (Source: Background information on the 10<sup>th</sup> Mountain Division presented on the internet at: <http://www.globalsecurity.org/military/agency/army/10mtn.htm>). The identity of the division does not materially alter the point made in the DSB report.



A few pages later, the report states:

U.S. military doctrine requires that sea, land and air forces form joint task forces. Thus, the seabase must be designed with joint operations in mind. While the Army, Marines, and Navy may directly employ sea basing techniques, all services, including the Air Force, must operate in close cooperation. Land, air and joint command and control systems must be integral to seabases.

The sea basing concept aims at expanding existing Navy/Marine Corps capabilities to encompass joint operations. The seabases of the future will serve the functions of air- and seaports. In other words, it will be an in-theater base for prolonged warfare operations. Such operations can involve the Air Force and particularly the Army, in addition to the Navy and Marine Corps; the brigade-sized operational focus of the conceptual seabase is at the “sweet spot” between the expeditionary operations traditionally performed by the MEB and 101<sup>st</sup> Airborne and larger military operations that involve divisions or corps.<sup>54</sup>

The report concludes that

Developing a system of systems, as complex as a seabase, necessitates careful coordination among the myriad projects required for implementing the system. Seabase realization must be guided by an overall architecture which coordinates diverse developments, including concepts of operation, ships, aircraft, cargo handling systems, logistics and communications. All the Services must participate to ensure compatibility.

Managing such a wide ranging, multi-Service program will require a leadership structure that spans diverse disciplines and that endures for the length of the seabase development activity. After discussing alternatives at length, the Task Force concludes that a Joint Program Office is the best choice to manage seabase development.<sup>55</sup>

Naval officials have expressed support for the notion of sea basing as a joint concept and at times have promoted it in part on that basis. Admiral Vernon Clark, the Chief of Naval Operations, has said, “We need to think about sea basing in a very joint construct and what it does for the entire military structure.”<sup>56</sup> Admiral Clark said that creating a joint DOD office on sea basing “makes so much sense.”<sup>57</sup>

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<sup>54</sup> Ibid., p. 34.

<sup>55</sup> Ibid., p. 47. For additional instances of where the report expresses the view that sea basing should be developed as a joint (rather than Navy-Marine Corps) operational concept, see pp. 9, 88, and 89. A computer scan shows, in total, 87 instances of the words “joint” or “jointness” in the report.

<sup>56</sup> As quoted in Sherman, “Jason. Pentagon Group Details Sea Base Concept,” *Defense News*, Oct. 27, 2003. See also “Kelly: Sea Basing Presents ‘Infinite Number Of Problems’ for the Enemy,” *Sea Power*, June 2004, p. 22 (interview with Rear Admiral John Kelly conducted by Hunter C. Keeter); Scott C. Truver, “Sea Basing: More Than the Sum of Its Parts?” *Jane’s Navy International*, Mar. 2004, pp. 18, 20; and Jason Ma, “Seabasing Concept Pursued as a Way to Support Entire Joint Force,” *Inside the Navy*, Nov. 25, 2002.

<sup>57</sup> As quoted in Jason Sherman and David Brown, “Pentagon to Create Multiservice Sea (continued...) ”

Army and Air Force officials have expressed support for sea basing. General Peter Schoomaker, the Chief of Staff of the Army, said, “Not only do I subscribe to it now, ... I have for years.” Lieutenant General Duncan McNabb, the Air Force Deputy Chief of Staff for plans and programs, said sea basing “is obviously a great concept,” that “the Navy and Marines are betting on the Air Force support that is needed,” and that “We will work out how we will support that mission.”<sup>58</sup> In June 2004, it was reported that the Army and Navy had begun collaborating on sea basing, particularly in terms of the Army’s future logistical system.<sup>59</sup>

Some observers do not support the idea of pursuing sea basing as a joint concept. An April 2003 article, for example, stated that

retired Marine Corp[s] Col. Vince Goulding, director of Sea Viking at the Marine Corps Warfighting Laboratory,<sup>60</sup> cautioned the naval services should not allow too many “cooks to get involved with creating this critical warfighting broth called seabasing.” Sea Viking is part of an experimentation program designed to transform the [Marine Corps’] 1997 “Ship-to-Objective Maneuver” concept into an operational reality.

“It has unfortunately — in my opinion — become vogue to talk about the seabase in joint terms. Seabase is not a joint requirement. Seabase is a joint force enabler, and there is a difference. Seabasing is a naval core competency and we need to keep it one,” Goulding said during a panel discussion.

If the Navy and Marine Corps allow the other services to have too much influence in how the seabase evolves, they will either develop something unusable to the tactical warfighter or something that is “so expensive it will never happen,” he said. The seabase cannot be all things to everyone, he advised, adding, “seabasing is and must remain a naval joint expeditionary capability, not an intermediate staging base.”<sup>61</sup>

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<sup>57</sup> (...continued)

Basing Requirements Office,” *Defense News*, Dec. 8, 2003, p. 30.

<sup>58</sup> Statements from both Schoomaker and McNabb as quoted in Otto Kreisher, “Sea Basing,” *Air Force Magazine*, July 2004, p. 64. Similar versions of these quotes appear in Scott C. Truver, “Sea Basing: More Than the Sum of Its Parts?” *Jane’s Navy International*, Mar. 2004, pp. 18, 20; and Jason Sherman and David Brown, “Pentagon to Create Multiservice Sea Basing Requirements Office,” *Defense News*, Dec. 8, 2003, p. 30.

<sup>59</sup> Ann Roosevelt, “Army, Navy Collaborating on Sea Basing Concept,” *Defense Daily*, June 30, 2004, p. 3; Lisa Troshinsky, “Army Logistics Using Sat Network, Planning for Sea-Based Capability,” *Aerospace Daily & Defense Report*, June 30, 2004, pp. 3-4. For additional discussion of Army interest in sea basing, see John J. Klein and Rich Morales, “Sea Basing Isn’t Just About the Sea,” *U.S. Naval Institute Proceedings*, Jan. 2004, pp. 32-35.

<sup>60</sup> The Marine Corps Warfighting Laboratory is the service’s center for innovation and transformation.

<sup>61</sup> Malina Brown, “Navy, Marine Officials Argue Iraq War Validates Need for Seabasing,” *Inside the Navy*, Apr. 14, 2003.

In December 2003, it was reported the acting DOD acquisition executive had issued an internal memorandum in November 2003 directing the establishment, by March 2004, of a joint requirements office on sea basing that would involve all the military services.<sup>62</sup> In January 2004, a Navy official said the new joint office would be established sometime in 2004.<sup>63</sup> In July 2004, it was reported that

Pentagon leaders have approved a three-month initiative that could help defense officials figure out what capabilities are needed to launch military strikes from floating bases at sea.

A plan approved late last month by the Defense Department's Joint Requirements Oversight Council [JROC] calls for the "seabasing joint integrating concept" [JIC] effort to focus on the "seize-the-initiative" phase of a major combat operation around the 2015 time frame," Navy spokeswoman Lt. Pauline Pimentel said July 27. With the Navy as the lead service, the project, which was kicked off earlier this month, is slated to run into October....

In addition to the sea service, the Office of the Secretary of Defense, the Joint Staff and the military's combatant commanders will have a hand in the seabasing JIC work....

While the Navy will lead the seabasing JIC work, some defense and naval analysts have questioned the wisdom of handing the Navy and Marine Corps the primary role in developing the concept. They warn doing so could lead the Army and Air Force to devote scant resources and personnel based on a belief that most of the work still needed to cultivate the concept should be done by the Navy and Marines.<sup>64</sup>

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<sup>62</sup> Jason Sherman and David Brown, "Pentagon to Create Multiservice Sea Basing Requirements Office," *Defense News*, Dec. 8, 2003, p. 30.

<sup>63</sup> Christopher J. Castelli, "Dawson: OSD to Create New Joint Seabasing Concept," *Inside the Navy*, Jan. 19, 2004.

<sup>64</sup> John T. Bennett, "JROC Green Lights Effort to Integrate Joint Seabasing Concepts," *Inside the Pentagon*, July 29, 2004, p. 3. The story explained the JIC process as follows:

"The seabasing JIC will provide a vignette to present a quick mental image of the concept — present an overview of how the [combined joint task force] will integrate desired capabilities to achieve desired effects," Pimentel said in written responses to questions posed by *Inside the Pentagon*.

The final JIC that emerges from the three-month initiative will be used by the department's new Force Management Functional Capabilities Board [FCB]. Each FCB plays a key role in the Pentagon's new Joint Capabilities Integration and Development System [JCIDS], which is geared toward making sure capabilities proposed by the services are examined in terms of how they bolster joint operations, defense officials have said. The JCIDS process also is designed to promote interoperability at the earliest stages of program development.

JCIDS last year replaced a Pentagon requirements generation system that was accused of being too service-centric....

(continued...)

Potential oversight questions for Congress include the following:

- Should development of the sea basing concept be led by a joint DOD office, or by the Navy and Marine Corps (while still incorporating input from the Army and Air Force)? What are the potential strengths and weaknesses of each approach?
- Is the Pentagon's approach to developing the sea basing concept appropriate? Does it feature too much, not enough, or about the right amount of interservice coordination and top-level DOD direction?
- To what degree, if any, does sea basing conflict with any emerging Army or Air Force concepts of operation for conducting future expeditionary operations?
- How might the Army's new plan for reorganizing itself into modular, brigade-sized entities called units of action (UAs)<sup>65</sup> affect, or be affected by, the sea basing concept? How might the Army's plans for procuring its own next-generation maritime prepositioning ships affect, or be affected by, the sea basing concept?
- How might the numbers and designs of amphibious and maritime prepositioning ships to be procured be affected by who leads the sea basing development effort, and by the amount of interservice coordination that is achieved? If sea basing is developed primarily

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<sup>64</sup> (...continued)

JICs — aimed at painting a picture of how a joint force commander would integrate capabilities to achieve specific battlefield effects — will be used by FCB officials in making decisions about proposals for new weapon systems and other warfighting tools....

The seabasing JIC will aim to integrate work on that topic already conducted by the Navy and other military components, including U.S. Joint Forces Command's "Joint Seabasing Concept," the Naval Warfare Development Command- and Marine Corps Combat Development Command-developed "Enhanced Network Seabasing Concept," and a draft version of a seabasing concept of operations drawn up by the Office of the Chief of Naval Operations. Those documents will be used as the "foundational documents for the development of the joint concept," Pimentel said.

The concept development effort is slated to run through the fall, after which officials will brief the JROC on the results. A follow-on capabilities-based assessment is scheduled to begin in early October, Pimentel said.

See also Christopher J. Castelli, "Admiral Sees Need for More Dialogue Between Services On Seabasing," *Inside the Navy*, Apr. 18, 2005.

<sup>65</sup> For more on this plan, see CRS Report RL32476, *U.S. Army's Modular Redesign: Issues for Congress*, by Andrew Feickert.

by the Navy and Marine Corps, and is then subsequently modified by DOD to take Army and Air Force needs into greater account, will this lead to instability in announced plans for procuring amphibious and maritime prepositioning ships?

## Applicability of Sea Swap to ESGs

A fourth potential oversight issue for Congress concerns the applicability of the Sea Swap concept to entire ESGs. Although the Navy has judged its first Sea Swap experiments to be successes, these experiments involved individual surface combatants with crews of 300 to 350 personnel. Navy officials have acknowledged that applying the concept to an entire ESG, which can have a total of about 5,000 personnel, including about 2,200 Marines embarked on the amphibious ships, could pose different challenges.<sup>66</sup> Potential oversight questions for Congress include the following:

- In what ways would the application of Sea Swap to ESGs be similar to, or different than, the application of Sea Swap to individual surface combatants? In particular, what new issues might arise in applying Sea Swap to amphibious ships carrying large numbers of Marines and their equipment?
- To what degree is current Navy thinking about the future number of required ESGs based on a judgment or anticipation concerning the application of Sea Swap to ESGs? If the Navy bases planned requirements for amphibious ships in part on a such a judgment or anticipation, and then subsequently modifies its understanding of this issue, will this lead to instability in announced plans for procuring amphibious ships?

## Industrial Base

A fifth potential oversight issue for Congress concerns the shipbuilding industrial base. The Navy is currently procuring ships at a relatively low rate, resulting in relatively low workloads, revenues, and employment levels for the shipyards that build major ships for the Navy. In addition to uncertainty over future procurement of amphibious and maritime prepositioning ships, these yards currently face uncertainty about future procurement rates for other kinds of ships as well.<sup>67</sup> Particularly in a situation of constrained funding, decisions made about future procurement of amphibious and maritime prepositioning ships could affect, or be affected by, decisions made about future procurement of submarines and surface combatants. Ship-procurement plans featuring various combinations of ship types

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<sup>66</sup> Malina Brown, "LaFleur: Navy Working on Applying Sea Swap to an Entire ESG," *Inside the Navy*, Apr. 5, 2004; Ron Laurenzo, "Sea Swap Could Become the Norm," *Defense Today*, Apr. 1, 2004, pp. 1, 4; Lorenzo Cortes, "Navy Surface Forces Chief Would Eventually Like to Swap an Entire ESG," *Defense Daily*, Apr. 1, 2004.

<sup>67</sup> For a discussion of this issue, see CRS Report RL32665, *Potential Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.



and quantities are possible, and some of these combinations could further reduce prospective workloads, revenues, and employment levels at one or more of these yards, possibly putting these yards, and their surrounding communities, under financial stress. Potential questions for Congress include the following:

- How is the Navy taking industrial-base considerations into account in assessing its future plans for procurement of amphibious and maritime prepositioning ships?
- How is the current uncertainty about Navy plans for procuring amphibious and maritime prepositioning ships affecting shipyard decisions on facilities modernization, worker training, or other issues, and how might this in turn affect the potential future procurement cost of amphibious and maritime prepositioning ships?
- What is the Navy's position on where the MLPs and connector ships might be built?

## Legislative Activity

### FY2006

#### FY2006 Defense Authorization Bill (H.R. 1815/S. 1042).

**House Report.** Sec. 122 of H.R. 1815 as reported by the House Armed Services Committee (H.Rept. 109-89) would limit the procurement cost of the LHA(R) to \$2.0 billion, about \$700 million less than the estimated cost of the LHA(R) to be procured in FY2007. Reducing the cost of the ship to \$2.0 billion might well require a significant redesign of the ship. Section 122 would also prevent Navy ship-procurement funds from being obligated or expended for the procurement of the LHA(R) until after the Secretary of Defense certifies in writing that DOD's Joint Requirements Oversight Council (JROC) has approved a detailed Operational Requirements Document (ORD) for the program and that there is a stable design for the LHA(R) class. The report recommends \$418 million in advance procurement funding for LHA(R), a \$267.6-million increase over the requested amount of \$150.4 million. This increase appears intended to help accelerate the delivery of the LHA(R) scheduled for procurement in FY2007..

The report recommends approval of the \$198.8 million in FY2006 procurement funds requested for LHD-8, and the \$1,344.7 million in procurement funds requested for the LPD-17 program.

With regard to the \$749.8 million requested in the National Defense Sealift Fund (NDSF) for buying out the leases of the 13 older MPF ships, the report stated:

The budget request, within the National Defense Sealift Fund, contained \$749.8 million to exercise purchase options on 13 Maritime Prepositioning Ships (MPS). Because of the continuing need for these ships beyond the original 25-year lease term, the committee recommends the purchase of six ships in this

fiscal year, at a total cost of \$414.0 million. The committee also recommends a \$103.0 million increase to the Navy's operation and maintenance account for the purpose of continuing the "capital hire payments" on the seven ships that are not being purchased. The committee expects that the Navy will exercise these options to purchase the following ships: MV SGT William R. Button, MV 1st LT Jack Lummus, MV 1st LT Baldomero Lopez, MV PFC Dewayne T. Williams, SS Maj Stephen W. Pless, and MV 2nd Lt John P. Bobo. The committee also expects that the funds provided in this Act will not be used to purchase fewer than the six ships enumerated above. The purchase of these ships will provide the Navy with the newest vessels within the total complement of Maritime Prepositioning ships, and ultimately provide the Navy with the greatest capability until the new Marine Prepositioning Force (Future) ships come on line.

While the Navy negotiated for purchase options on all 13 of the MPS, the exact option price is the greater of the termination value, which is set forth in the lease, and the current fair market value. The contract language provides that the "fair market value shall mean the price that a willing purchaser, that is not the charterer (Navy) or an affiliate of the charterer would pay to purchase the vessel in an arm's-length transaction." If negotiations do not result in an agreement on the buy-out value, the market value is determined by an arbitration panel made up of three appraisers. The committee understands, on the first ships in the purchase process, that the appraised market value will be determined before the end of September 2005.

The committee expects, in the event that these appraised market values exceed in any significant way the termination values in the leases, that the Navy will withdraw its purchase notifications to the owners, and the congressional defense committees will be notified immediately of the Navy's future plans with respect to the MPS. (Pages 75-76)

**Senate Report.** Sec. 123 of S. 1042 as reported by the Senate Armed Services Committee (S.Rept. 109-69) authorizes \$325.4 million (a \$175-million increase over the requested amount of \$150.4 million) for design, advance procurement, and advance construction for the first LHA(R), and authorizes the Navy to contract for the detailed design and construction of the ship in FY2007 using split funding (i.e., incremental funding ) in FY2007 and FY2008. The report states:

The Chief of Naval Operations has included additional funding for LHA(R) as the number one priority on his unfunded priorities list. The committee understands that additional funding would accelerate delivery of and reduce the acquisition cost of this ship, and recommends an increase of \$175.0 million in SCN for the LHA(R). (Page 67)

The report recommends approval of the \$198.8 million in FY2006 procurement funds requested for LHD-8, and the \$1,344.7 million in procurement funds requested for the LPD-17 program.

With regard to the proposed MPF lease buyout, Sec. 323 of the bill as reported states:

SEC. 323. USE OF FUNDS FROM NATIONAL DEFENSE SEALIFT FUND TO EXERCISE PURCHASE OPTIONS ON MARITIME PREPOSITIONING SHIP VESSELS.

(a) **USE OF FUNDS-** Notwithstanding the provisions of section 2218(f)(1) of title 10, United States Code, the Secretary of Defense may obligate and expend any funds in the National Defense Sealift Fund to exercise options to purchase three Maritime Prepositioning Ship (MPS) vessels under charter to the Navy as of the date of the enactment of this Act, the contracts for which charters expire in 2009.

(b) **NATIONAL DEFENSE SEALIFT FUND DEFINED-** In this section, the term 'National Defense Sealift Fund' means the National Defense Sealift Fund established by section 2218 of title 10, United States Code.

With regard to this section, the report states:

The committee recommends a provision that would authorize the Secretary of Defense to obligate and expend any funds in the National Defense Sealift Fund to exercise options to purchase those three maritime prepositioning ships (MPS) whose current charters expire in calendar year 2009. This authorization is granted notwithstanding the provisions of section 2218(f)1 of title 10, United States Code.

The budget request included \$1,648.5 million for the National Defense Sealift Fund, including \$749.8 million for the buyout of 13 MPS leases in fiscal year 2006.

The committee notes that the time remaining on the leases of these 13 ships varies between four and six years, and does not see the urgency of buying out all of the leases at this time. The committee recommends buyouts of only those leases that expire in calendar year 2009, and recommends a decrease of \$637.2 million from the National Defense Sealift Fund. The committee recommends an increase of \$127.6 million in Operation and Maintenance, Navy, for the continued lease of the other 10 MPS vessels. (Pages 279-280)

With regard to the MPF(F) program and the sea basing concept, the report states:

The committee is concerned about whether the concept of sea basing is technically feasible and fiscally prudent. The committee is also concerned that the requirement for sea basing has not been refined beyond a concept of operations. The premise for the requirement for the sea base is that access to ports or bases ashore may be denied, or that sea basing will reduce vulnerabilities of large logistics bases ashore. The sea base concept is that a large ground force can be assembled at sea, delivered on the surface and the air to an area of conflict, and subsequently sustained from the sea base. The Navy is touting the centerpiece of the sea base as being the Maritime Prepositioning Force, Future (MPF(F)). The Mission Need Statement for MPF(F) was approved by the Joint Requirements Oversight Council in May 2001, yet the Department of Defense is still trying to define key performance parameters. The budget request included \$66.3 million [in research and development funding] in PE [program element] 48042N for the purpose of developing enabling technologies for MPF(F).

Enabling technologies include landing platforms, ship-to-ship cargo transfer, automated cargo handling, underway replenishment in heavy seas, and others. The committee believes it is important to ensure these technologies can actually support the movement of supplies and equipment in heavy seas, at a rate

that will actually sustain a ground force engaged in combat, before the country makes large investments in MPF(F) ships.

The Navy has made a number of proposals in this budget request. One is to build only one surface combatant and one submarine a year through the years included in the Future Years Defense Program (FYDP). Another is to delay the completion of the first ship of the new class of aircraft carrier, the CVN — 78, for the second time in two years. Finally, the Navy has proposed to reduce the force of active aircraft carriers from 12 to 11. In testimony before the Subcommittee on Seapower of the Committee on Armed Services, one witness who represented the shipbuilding industry stated that the single most important factor in controlling costs of ships was to offer program stability. Constantly changing budgets, acquisition strategies, and procurement profiles are as disruptive to maintaining cost and schedule stability as constantly changing technical requirements. The Navy's shipbuilding budget is already underfunded, and the addition of a new platform could only make the situation worse.

Section 1022(a)(1) of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107 — 314) requires the Secretary of Defense to report to the Committees on Armed Services of the Senate and the House of Representatives that funding is adequate to support a 30 year shipbuilding plan, with a discussion of the necessary naval vessel force structure to meet the National Security Strategy of the United States or the most recent Quadrennial Defense Review. The Navy has submitted an interim 30 year shipbuilding plan, which does not yet appear to be endorsed by the Department, and does not appear to be fully funded in the FYDP. In written testimony before the Subcommittee on Seapower of the Committee on Armed Services, a Congressional Research Service analyst describes this plan in the following way: "The March 2005 report does not present a 30 year shipbuilding plan. Instead, it presents a 30 year projection of potential Navy force levels from which potential annual shipbuilding rates can be only partially inferred." The force structures in the Navy plan are for either 260 ships or 325 ships, both of which include MPF(F) ships, which are intended to enable the sea basing concept. While the committee recommends authorization of the budget request for \$66.3 million in PE 48042N for development of technologies for MPF(F), the committee believes that the Navy should not proceed to a shipbuilding program for MPF(F) before the requirements for MPF(F) are more refined, and that enabling technologies have demonstrated a high probability of achieving successful operations. (Pages 110-111)

### **FY2006 Defense Appropriations Bill (H.R. 2863).**

**House Report.** The House Appropriations Committee, in its report (H.Rept. 109-119 of June 10, 2005) on H.R. 2863, recommended a \$50-million increase in the Shipbuilding and Conversion, Navy (SCN) account for the first LHA(R). The report stated: "The Committee supports the LHA(R) program, and directs the Navy to reconsider its proposal to request split funding for LHA(R) over the FY2007 — 08 timeframe, and instead follow the full funding principle for this ship class, to ensure an adequate budget is in hand before contract award." (Page 146)

The report also recommended a \$384-million increase in the National Defense Sealift Fund to procure an additional TAKE-1 class ship (for a total FY2006 procurement of two ships), a \$374.8-million reduction in the NDSF for the MPF

lease buyout, and a \$7.3 million reduction in the NDSF for the MPF(F) program. The report stated:

#### T-AKE DRY CARGO/AMMUNITION SHIP

The Committee recommends \$714,143,000 for two T-AKE ships, which is one ship and \$334,000,000 more than the budget request. If enacted, the budget proposal would cause termination of the existing contract options and renegotiation of the prices under those options. Navy officials consider the existing prices to be favorable to the Government as well as executable within the overall program budget. The expected additional cost to the Government, and potential program delay, is unacceptable to the Committee.

#### MPS LEASE BUYOUT

The Committee recommends \$375,000,000 for the planned buyout of Maritime Prepositioning System (MPS) leased vessels. The President's budget proposed \$749,787,000 for the buyout of 13 vessels of the *Amsea* class, the *Maersk* class, and the *Waterman* class. The Committee believes the Navy has made a good business case for this program, but would support a program phased over the next few years rather than entirely funded in fiscal year 2006. Although the purchase price of these vessels is likely to be determined through negotiation, the Committee believes the funding provided will be sufficient to procure approximately 6 of these vessels.

#### MARITIME PREPOSITIONING FORCE (FUTURE)

The Committee recommends \$59,000,000 for further development, concept studies, and concept design for the Maritime Prepositioning Force (Future), or MPF(F). This is more than twice the \$28,000,000 provided for fiscal year 2005, and a reduction of \$7,301,000 from the budget request. The reduction should be allocated to management, engineering, and acquisition overhead, which otherwise would account for approximately 40 percent of the total program budget. (Page 309)

## FY2005

### FY2005 Defense Authorization Act (H.R. 4200/P.L. 108-375).

**House Report.** The House Armed Services Committee, in its report (H.Rept. 108-491) on H.R. 4200, recommended adding \$150 million in advanced procurement funding in the SCN account for LHA(R), and stated:

The committee understands that the LHA (R) will be based on the LHD — 1 Class hull combined with the latest propulsion and electric plant technology. The committee further notes that, while the LHA (R) design is not yet finalized, commonality with LHD-1 Class will be much greater than 50 percent. The Secretary of the Navy is directed to report to the congressional defense committees how the additional funding will be used prior to obligation of those funds, since no description has been provided with the budget request.



Therefore, the committee recommends an increase of \$150.0 million in ship construction Navy for advanced procurement of components common to LHD — 9 and LHA (R). (Page 66)

Section 112 of H.R. 4200 as reported by the House directed the Navy to accelerate and expand the scope of a program to modernize the Navy's DDG-51 class destroyers. In discussing this section, the report stated:

In fiscal year 2003, Congress approved and funded, above the President's request, a \$300.0 million proposal that included a swap of DDG-51 and amphibious transport dock (LPD) shipbuilding workload between two shipyards handling the construction of these ships. At the time, the Navy indicated that such a workload "swap" was in the best interests of the government, providing workload stability and generally protecting a vital industrial base for the construction of surface combatants.

This swap, implemented by Congress as a way of stabilizing the workload at these yards, has been undermined by the Navy's changing construction profile. Starting in 2004 and continuing into 2005, the Navy has reduced the number of DDG — 51s and LPDs in its shipyard construction plan. Each time this happens, it creates instability within the surface combatant shipyards that see workload shares decrease in both the short- and long-term. In both 2004 and 2005, the Navy's ship construction plan changed from the proposal presented in 2003, negatively impacting the construction of surface combatants and thereby the same shipyards that Congress, with approval of the Navy, attempted to stabilize in 2003. (Page 123)

**Senate Report.** The Senate Armed Services Committee, in marking up the FY2005 defense authorization bill (S. 2400), included a provision (Section 121) that, as stated in its report on the bill (S.Rept. 108- 260), would

authorize the Secretary of the Navy to procure the first amphibious assault ship of the LHA(R)-class, subject to appropriations for that purpose. The provision would also make available \$150.0 million in Shipbuilding and Conversion, Navy (SCN), for the advance procurement and advance construction of components for that ship. The provision also would authorize the Secretary of the Navy to enter into a contract or contracts with the shipbuilder and other entities for the advance procurement and advance construction of those components.

The LHA(R)-class will replace the aging LHA-class amphibious assault ship, which will begin reaching the end of service life in 2011. The advance design work on LHA(R) began in fiscal year 2003 and continues to date. The Future Years Defense Program submitted with the budget request included full funding for the first LHA(R)-class amphibious assault ship in fiscal year 2008. The committee understands that acceleration of this ship, by providing the first increment of SCN funding in fiscal year 2005, would reduce the cost of this ship by \$150.0 million. The Chief of Naval Operations and the Commandant of the Marine Corps have included this acceleration on their Unfunded Priority Lists. Therefore, the committee recommends an increase of \$150.0 million for advance procurement and advance construction of components for the first amphibious assault ship of the LHA(R)-class. (Page 74)

**Conference Report.** The conference report (H.Rept. 108-767) on the FY2005 defense authorization bill (H.R. 4200/P.L. 108-375) contained a provision (Section 123) which states:

**SEC. 123. LHA(R) AMPHIBIOUS ASSAULT SHIP PROGRAM.**

(a) **AUTHORIZATION OF SHIP.** — The Secretary of the Navy is authorized to procure the first amphibious assault ship of the LHA(R) class, subject to the availability of appropriations for that purpose.

(b) **AUTHORIZED AMOUNT.** — Of the amount authorized to be appropriated under section 102(a)(3) for fiscal year 2005, \$150,000,000 shall be available for the advance procurement and advance construction of components for the first amphibious assault ship of the LHA(R) class. The Secretary of the Navy may enter into a contract or contracts with the shipbuilder and other entities for the advance procurement and advance construction of those components.

**FY2005 Defense Appropriations Act (H.R. 4613/P.L. 108-287).**

**House Report.** The House Appropriations Committee, in its report (H.Rept. 108-553) on H.R. 4613, strongly criticized the Navy's unsettled plans for procuring amphibious and maritime prepositioning ships. In discussing the funding request for the SCN account, the report stated:

The Committee remains deeply troubled by the lack of stability in the Navy's shipbuilding program. Often both the current year and outyear ship construction profile is dramatically altered with the submission of the next budget request. Programs justified to Congress in terms of mission requirements in one year's budget are removed from the next. This continued shifting of the shipbuilding program promotes confusion and frustration throughout both the public and private sectors. Moreover, the Committee is concerned that this continual shifting of priorities within the Navy's shipbuilding account indicates uncertainty with respect to the validity of requirements and budget requests in support of shipbuilding proposals.

This state of affairs reached a new level during consideration of this year's request when officials in the Navy actively pursued changing the President's budget request to accommodate an alternative option for the LHA Replacement program. That the LHA(R) was subject to re-structure is not surprising. Indeed, the Committee had proposed elimination of this program in fiscal year 2004 based on the inability of the Navy to adequately justify the program. However, this out of cycle proposal for a new ship class (tantalizingly presented to the press before Congress was provided with information) simply highlights the overall instability of the shipbuilding program. (Page 164).

In discussing the funding request for the Navy's research and development account, the report stated:

The budget includes a request of \$44,180,000 for the amphibious assault ship (LHA) replacement, the LHA(R) program. The Committee recommends no appropriation for the LHA(R), a reduction of \$44,180,000 from the fiscal year 2005 request based on the uncertainty of proceeding with the LHA(R) program of record.

In its fiscal year 2004 recommendations, the Committee eliminated funding for LHA(R), only to be persuaded by the Navy that the program of record was achievable. However, after submission of the fiscal year 2005 budget, the Navy determined that the LHA(R) program required a major restructure. Owing to the overall cost of the LHA(R) program, coupled with relatively little gain in capability, the Navy now apparently advocates an alternative option based on modifications to the LHD — 8 configuration. Funding and justification for this option has not been included in the President's request, nor has a budget amendment been submitted which formally changes the program of record and the amounts requested for fiscal year 2005. Moreover, the Navy's new plan presumes designing a ship that would alter the amphibious nature of the LHA, and then, proposing an incrementally funded construction program. It is unclear at this time whether this option would be the design and construction of the first in a new class of ships, or a single ship for this mission.

While the Committee supports Marine Corps requirements for a new amphibious assault ship, the Committee strongly believes that more time is required to fully assess the appropriate way ahead, including a thorough review of requirements and the likely availability of funding. This review should emphasize fielding operational capability — not just the development and construction of a new ship — consistent with projected warfighting requirements and the availability of budget resources.

Should the Navy and Marine Corps determine that the re-structure of the LHA(R) program is the way ahead for the future, a fully funded program for design and construction of a ship to meet this requirement should be included in a future budget request. The Committee will not support a proposal which suggests that construction be incrementally funded.<sup>68</sup>

The Committee notes that Congress provided \$64,100,000 in fiscal year 2004 for the LHA(R) program of record, that will potentially be replaced by the alternative option of a modified LHD — 8. Since these funds remain available through fiscal year 2005, the Navy may use the funds appropriated in fiscal year 2004 for the LHA(R) for costs associated with the development and design of an alternative option. (Pages 289-290)

In discussing the funding request for the National Defense Sealift Fund (NDSF), the report states:

The fiscal year 2005 budget [for the NDSF] includes a \$117,000,000 request for Research, Development, Test and Evaluation for Strategic Sealift, an increase of \$103,500,000 over the fiscal year 2004 level. Of the amount requested, \$92,626,000 is for concept development and lead hull research and development efforts for the Maritime Pre-positioning Force (Future), MPF(F).

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<sup>68</sup> To prevent the use in DOD procurement of incremental funding, which was viewed as having the potential to lead to problems in defense procurement, Congress in the 1950s instituted the full funding policy, which requires items acquired in the procurement title of the DOD appropriation act to be fully funded in the year that they are procured. For more discussion, see CRS Report RL31404, *Defense Procurement: Full Funding Policy — Background, Issues, and Options for Congress*, by Ronald O'Rourke and Stephen Daggett.

The Committee has provided a total of \$34,326,000 for Research, Development, Test and Evaluation for Strategic Sealift, a reduction of \$82,626,000 from the request. This reduction is applied to the request for MPF(F) for which the Committee provides a total of \$10,000,000 for concept development. None of the funds provided for MPF(F) concept development may be obligated or expended until the Navy submits a detailed MPF(F) proposal and expenditure plan to the Committee on Appropriations.

Budget documentation provided to Congress in support of the fiscal year 2005 budget request provided no information detailing how the MPF(F) funds were to be spent. The only information provided states that lead hull construction costs are to be incrementally funded beginning in fiscal year 2007. Requests for additional information yielded no detail of the planned expenditures due to a not yet completed study by the Center for Naval Analysis. The Committee notes that while detail was not provided to Congress, the trade press was provided some information and printed articles quoting senior Navy officials on plans for the possible construction of a fleet of MPF(F) ships.

The Committee believes the Navy must provide sufficient justification of its requests for appropriated funds. While the Committee appreciates that the timing inherent in the budget process does not always favor rapid transition to new ideas, it is not reasonable to request Congress provide funds for a program with no justification except that which is printed in the trade press. Furthermore, the Navy is well aware of the Committee's views with respect to incremental funding of programs. The Committee finds little humor in being asked to fund an unjustified request of nearly \$100 million, for what is intended upon its maturation to become an incrementally funded program. (Pages 351-352)

**Senate Report.** The Senate Appropriations Committee, in its report (S.Rept. 108-284), recommended adding \$175 million in advanced procurement funding in the SCN account for LHA(R). The report stated:

The Committee is aware of the Navy and Marine Corps team's desire to accelerate the current fiscal year 2008 build plan for the next generation large deck amphibious assault ship. The Committee's understanding is that the recently signed requirements plan calls for the construction of LHA(R) Flight Zero or an affordable variant of the LHD Class that is designed to support increased air operations and fuel capacity. The Committee recommends \$175,000,000 in funding for LHA(R) Flight Zero with the unwavering expectation that the Navy will include follow-on funding for the ship in its fiscal year 2006 budget request. Further, the Committee directs the Secretary of the Navy to submit a detailed report to the congressional defense committees on the acquisition strategy and overall program plan for the LHA(R) by March 31, 2005. (Page 83)

The report recommends reducing the total FY2005 NDSF funding request of \$1,269.3 million to \$441.9 million — a reduction of \$827.3 million, or about 65%, from the requested amount. In discussing this reduction, the report mentions only the Navy's Lewis and Clark (TAKE-1) class dry cargo ship program, which is a Navy auxiliary ship program, not a maritime prepositioning ship program. (See page 183.) Within the total NDSF funding request, \$768.4 million was requested for the construction of two TAKE-1 class ships. Rejecting the TAKE-1 program funding request entirely would explain most but not all of the committee's recommended

\$827.3-million reduction. It is not clear from the committee report whether the remaining \$58.9 million of the recommended reduction would affect the funding request for the MPF(F) program or activities within the NDSF not related to the MPF(F) program.

**Conference Report.** The conference report (H.Rept. 108-622) on the FY2005 defense appropriations bill (H.R. 4613/P.L. 108-287) adds \$150 million in advanced procurement funding in the SCN account for LHA(R). With regard to funding in the Navy's research and development account for LHA(R), the report states:

The conferees agree to provide \$44,180,000 for the Amphibious Assault Ship — LHA Replacement, LHA(R), program as requested and as proposed by the Senate instead of no appropriation as proposed by the House.

The conferees agree that the Secretary of the Navy shall submit to the Committees on Appropriations of the House and Senate, a report within 90 days of enactment of this Act that addresses a thorough review of the LHA(R) requirement, the impact of the proposed ship on executing the Marine Corps amphibious assault mission, the overall cost and acquisition objective of LHA(R), and the acquisition strategy. (Page 310)

With regard to the NDSF, and to the request within the NDSF for the MPF(F) program, the report states:

The conferees agree to provide a total of \$1,204,626,000 for the National Defense Sealift Fund instead of \$1,186,990,000 as proposed by the House and \$441,936,000 as proposed by the Senate.

Within the funds provided, the conferees agree that \$768,400,000 is for construction of two T-AKE vessels as proposed in the fiscal year 2005 budget request and \$28,000,000 is for the Maritime Pre-positioning Fleet (Future), MPF(F).

The conferees agree that none of the funds provided for the MPF(F) may be obligated or expended until the Secretary of the Navy submits to the congressional defense committees, a detailed report on the MPF(F) mission, operational requirements, analysis of alternatives, expenditure plans, and overall program congruence with ongoing forcible entry studies. (Page 360)